Cub Cadet

Operator's Manual

3-In-1 Mower
Model SRA 621

IMPORTANT:READ SAFETY RULES AND INSTRUCTIONS CAREFULLY

Warning: This unit is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester is used, it should be maintained in effective working order by the operator. In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands. A spark arrester for the muffler is available by contacting the service department at Cub Cadet LLC, P.O. Box 361131 Cleveland, Ohio 44136-0019.

CUB CADET LLC, P.O. BOX 361131, CLEVELAND, OH 44136-0019

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FINDING MODEL NUMBER

This Operator's Manual is an important part of your new Mower. It will help you assemble, prepare and maintain the unit for best performance. Please read and understand what it says.

Before you start assembling your new equipment, please locate the model plate on the equipment and copy the information from it in the space provided below. This information is very important if you need help your *Cub Cadet* dealer.

- You can locate the model number by looking at the rear surface of the cutting deck. A sample model plate is explained below. For future reference, please copy the model number and the serial number of the equipment in the space below

Cub Cadet
www.cubcadet.com
CUB CADET LLC
P. O. BOX 361131
CLEVELAND, OH 44136
DEALER LOCATOR PHONE NUMBER: 877-282-8684

Copy Model Number Here _____

Copy Serial Number Here _____

ENGINE INFORMATION

The engine manufacturer is responsible for all engine-related issues with regards to performance, power-rating, specifications, warranty and service. Please refer to the engine manufacturer's Owner's/Operator's Manual packed separately with your unit for more information.

CALLING CUSTOMER SUPPORT

If you have difficulty assembling this product or have any questions regarding the controls, operation or maintenance of this unit, please call the Customer Dealer Referral Line.

Call **1- (877) 282-8684** to reach the Customer Dealer Referral Line. Please have your unit's model number and serial number ready when you call. See previous section to locate this information.

For more details about your unit, visit our website at www.cubcadet.com

Section 1 Safety

Safety Alert Symbol

This is a safety alert symbol. It is used in this manual and on the unit to alert you to potential hazards. When you see this symbol, read and obey the message that follows it. Failure to obey safety messages could result in personal injury or property damage.

This machine meets voluntary safety standard B71.1 – 1998, which is sponsored by the Outdoor Power Equipment Institute, Inc., and is published by the American National Standards Institute.

⚠ WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

IMPORTANT

Safe Operation Practices for Walk-Behind Mowers

This cutting machine is capable of amputating hands and feet and throwing objects. Failure to observe the following safety instructions could result in serious injury or death.

I. GENERAL OPERATION

1. Read, understand and follow all instructions on the machine and in the manuals provided with the unit. Be thoroughly familiar with the controls and the proper use of the mower before starting.
2. Do not put hands or feet near or under rotating parts. Keep clear of the mower blade and discharge opening at all times.
3. Only allow responsible individuals, who are familiar with the instructions, to operate the mower.
4. Clear the area of objects such as rocks, toys, wire, bones, sticks, etc., which could be picked up and thrown by the blade.
5. Be sure the area is clear of other people before mowing. Stop mower if anyone enters the area. Keep bystanders at least 25 feet away from the area of operation.
6. Do not operate the mower when barefoot or wearing open sandals. Always wear substantial foot wear.
7. Do not pull mower backwards unless absolutely necessary. Look down and behind before and while moving backwards.
8. Do not operate mower without all guards in place and either the entire Grass Catcher, the Mulching Plug or the Side-Discharge Chute installed. ROTATING BLADES— Do not open discharge guard while engine is running.
9. Refer to provided instructions for proper operation and accessory installation. Use only accessories approved by Garden Way Inc.
10. Shut off engine when crossing gravel drives, walks, or roads.
11. Stop engine and disconnect spark plug wire from spark plug whenever you leave unit, before cleaning mower or unclogging chute.
12. Shut the engine off and wait until the blade comes to a complete stop before installing or removing the Mulching Plug, Side-Discharge Chute or the Grass Catcher. Make certain that an attachment is installed before operating the mower. Empty the Grass Catcher after each use– decomposing debris could generate enough heat to catch fire.
13. Mow only in daylight or in good artificial light.
14. Do not operate mower while under the influence of alcohol or drugs.
15. Never operate mower in wet grass. Always be sure of your footing; keep a firm hold on the handle and walk; never run.
16. Be sure Wheel Drive Bail is disengaged before starting engine.
17. If the unit should start to vibrate abnormally, stop the engine and disconnect the spark plug wire. Then check immediately for the cause. Vibration is generally a warning of trouble.
18. We recommend that you wear safety goggles or safety glasses when operating the mower.
19. Watch for traffic when operating near, or when crossing roadways.
20. Never attempt to carry children or other passengers on the mower. They could fall off and be seriously injured, or they could interfere with the safe operation of the mower.
21. Check the operation of the Operator Presence Control Bail (top bail, mounted on handlebar) before each use. The Operator Presence Control Bail is a safety device that is designed to stop the mower blade within three seconds after releasing the bail. The bail must operate freely when pulled back against the handlebar and return automatically to the disengaged position when released. If the engine runs longer than three seconds after releasing the bail, the system is not working properly. Immediately contact an authorized service dealer or the Factory Technical Service Department for instructions. Do not use the mower until the mechanism is repaired.
22. Never run the engine in an enclosed area. Engine exhaust contains carbon monoxide, a deadly gas that is odorless, colorless and tasteless. Always run the engine outdoors and make sure there is adequate ventilation.

II. OPERATING ON A SLOPE

Slopes are a major factor related to slip and fall accidents which can result in severe injury. All slopes require extra caution. If you feel uneasy on a slope, do not mow it.

DO:

Mow across the face of slopes; never up and down. Exercise extreme caution when changing direction on slopes. Avoid slopes greater than 15°.

Remove objects such as rocks, tree limbs, etc.

Watch for holes, ruts, or bumps. Tall grass can hide obstacles.

DO NOT:

Do not mow near drop-offs, ditches, or embankments. The operator could loose footing or balance.

Do not mow excessively steep slopes.

Do not mow on wet grass. Reduced footing could cause slipping.

III. CHILDREN

Tragic accidents can occur if the operator is not alert to the presence of children. Children are often attracted to the mower and to the mowing activity. *Never* assume that children will remain where you last saw them.

1. Keep children out of the mowing area and under the watchful care of a responsible adult.
2. Be alert and turn mower off if children enter the area.
3. Before and while moving backwards, look behind and *down* for small children.
4. Never allow children to operate the mower.
5. Use extra care when approaching blind corners, shrubs, trees, or other objects that may obscure vision.

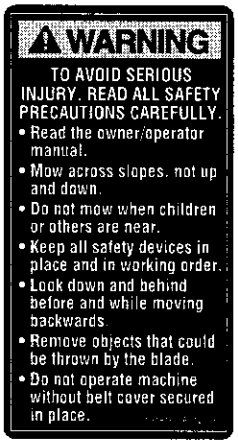
IV. SERVICE

1. Use extra care in handling gasoline and other fuels. They are flammable and their vapors are explosive.
   a) Use only an approved container.
   b) Never remove gas cap or add fuel when the engine is running. Allow engine to cool before refueling. Do not smoke.
   c) Never refuel the machine indoors.
   d) Never store the machine or fuel container inside where there is an open flame, such as a water heater, etc.
   e) Move mower away from any gasoline fumes before starting the engine.
2. Never run an engine inside a closed area.
3. Never make adjustments or repairs with the engine running. Disconnect the spark plug wire and move the wire away from the plug to prevent accidental starting.
4. Keep all nuts and screws, especially the blade attachment bolts, tight and keep equipment in good condition.
5. Never tamper with safety devices. Check their operation regularly.
6. Keep mower free of grass, leaves or other debris build-up. Clean up oil or fuel spillage. Allow mower to cool before storing.
7. After striking an object, stop the engine and disconnect the spark plug wire. Inspect the mower and repair, if necessary, before restarting.
8. Never attempt to make mower cutting height adjustments while the engine is running.
9. Grass catcher components are subject to wear, damage and deterioration, which could expose moving parts or allow objects to be thrown. Frequently check components and replace with factory recommended parts, when necessary.
10. The mower blade is sharp and can cut. Wrap the blade or wear gloves, and use extra caution when servicing.
11. Do not change the engine governor setting or overspeed the engine.
12. Do not touch engine parts which may be hot from operation. Allow parts to cool completely before inspecting, cleaning or repairing the mower.
13. Maintain or replace safety and instructional decals. Refer to the Parts List for replacement decal information.

SAFETY DECALS

For your safety and the safety of others, various safety decals are located on your unit (below - size not to scale).

Keep the decals clean and legible at all times. Contact your local service dealer or the Factory for replacements if any decals are damaged or missing. Refer to the Parts List pages in this Manual for decal part numbers.


WARNING
TO AVOID SERIOUS INJURY, READ ALL SAFETY PRECAUTIONS CAREFULLY.
• Read the owner/operator manual.
• Mow across slopes, not up and down.
• Do not mow when children or others are near.
• Keep all safety devices in place and in working order.
• Look down and behind before and while moving backwards.
• Remove objects that could be thrown by the blade.
• Do not operate machine without belt cover secured in place.

Located on the belt cover. This decal provides a list of warnings to help avoid serious injury.

TO REDUCE THE RISK OF INJURY, DO NOT OPERATE UNLESS DISCHARGE COVER OR GRASS CATCHER IS IN ITS PROPER PLACE. IF DAMAGED, REPLACE IMMEDIATELY.
DANGER
KEEP HANDS and FEET AWAY

Located on the discharge outlet guard. This decal warns not to operate the mower without the discharge outlet guard in place and either the Grass Catcher, Mulching Plug or Side-Discharge Chute installed. This decal also warns that there are rotating blades. Do not open the discharge outlet guard while the engine is running.

Located on the left side of the mower deck. This decal cautions to keep hands away.

Section 2 Assembly

⚠ WARNING

Before operating your machine, carefully read and understand all safety, controls and operating instructions in this Manual, the separate Engine Owner's Manual, and on the decals on the machine.

Failure to follow these instructions can result in serious personal injury.

INTRODUCTION

This Section covers unboxing and assembling your new mower. Please carefully read all the instructions before you attempt to assemble the mower. After you finish assembling the mower, read Section 1: *Safety*, Section 3: *Features and Controls*, and Section 4: *Operation*, before using the mower.

INSPECTION

Inspect the mower immediately after delivery. Make sure that neither the carton nor the contents have been damaged.

If you find or suspect any damage, contact the carrier (trucking company) right away. Inform them of the specific damage and that you wish to file a claim. To protect your rights, be sure to put this in writing to the carrier within 15 days after your machine arrives. The carrier will let you know how to proceed with your claim.

LOOSE PARTS

The following items are shipped loose within the container.

NOTE: The mower is shipped with the Mulching Plug (B, Figure 2-2) installed in the discharge outlet (Figure 2-1).

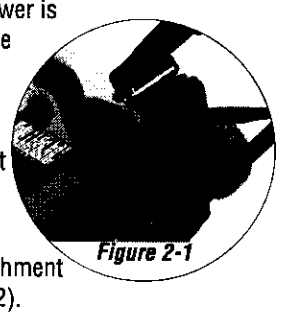


Figure 2-1

- The Grass Catcher attachment (A, Figure 2-2).
- Side-Discharge Chute attachment (C, Figure 2-2).

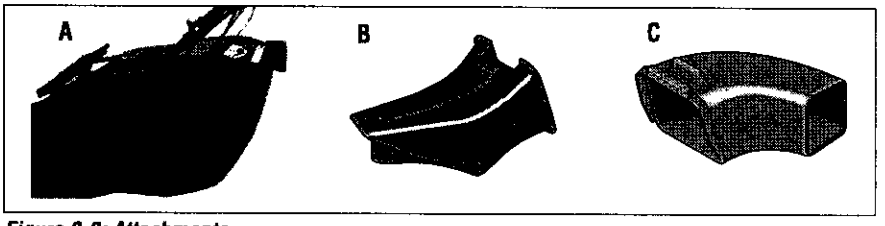


Figure 2-2: Attachments

ASSEMBLING NEW UNITS

⚠ CAUTION

The mower blade is sharp and can cause serious personal injury. When working near the mower blade, wear heavy leather gloves to protect yourself from the sharp edges.

IMPORTANT: The mower is shipped without motor oil in the engine crankcase. Add motor oil to the engine before starting. Follow instructions in this Section.

Step 1: Unpack Mower

1. The mower comes fully assembled with the handlebars folded compactly for shipment. Remove the mower from the shipping container.
2. The control bails (P, Figure 2-6) are secured to the handlebar (Q) with a cable tie. Cut the cable tie off and remove the protective packing material.
3. Follow steps 2 through 8 to complete mower assembly.

Step 2: Unfold Handlebar Assembly

1. Loosen the two lower handlebar adjustment knobs (1, Figure 2-5).
2. Carefully unfold lower section of the handlebar assembly (2, Figure 2-5). Watch the cables while unfolding and make sure that they do not pinch, kink, or over-stretch while unfolding.
3. Tighten the two lower handlebar adjustment knobs just enough to allow the two handlebar struts (H, Figure 2-3) to move in and out slightly.
4. Insert the tab (F, Figure 2-3) on each handlebar strut into the slot (G) one each side of the deck. Be certain to route the cables inside the left side strut as shown in Figure 2-4.
5. Tighten both lower handlebar adjustment knobs securely.
6. Loosen the two upper handlebar adjustment knobs (3, Figure 2-5).
7. Unfold the upper handlebar assembly (4, Figure 2-5) and align with the lower handlebar assembly. Be sure not to pinch, kink, or over-stretch the cables while unfolding.
8. Tighten both upper handlebar adjustment knobs securely.
9. Check the starter rope. Make sure that it does not catch under the top handlebar adjustment knob (I, Figure 2-6). The starter rope should stretch unobstructed to the engine.

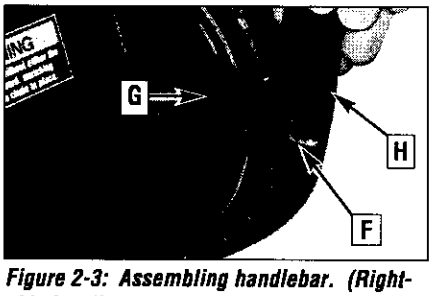


Figure 2-3: Assembling handlebar. (Right-side handlebar strut shown.)

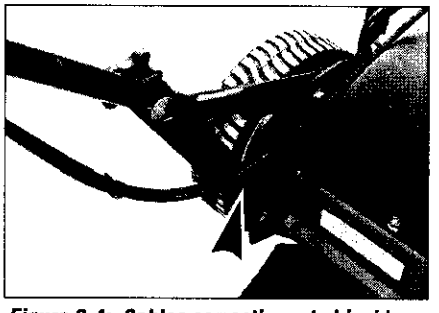


Figure 2-4: Cables correctly routed inside handlebar strut.

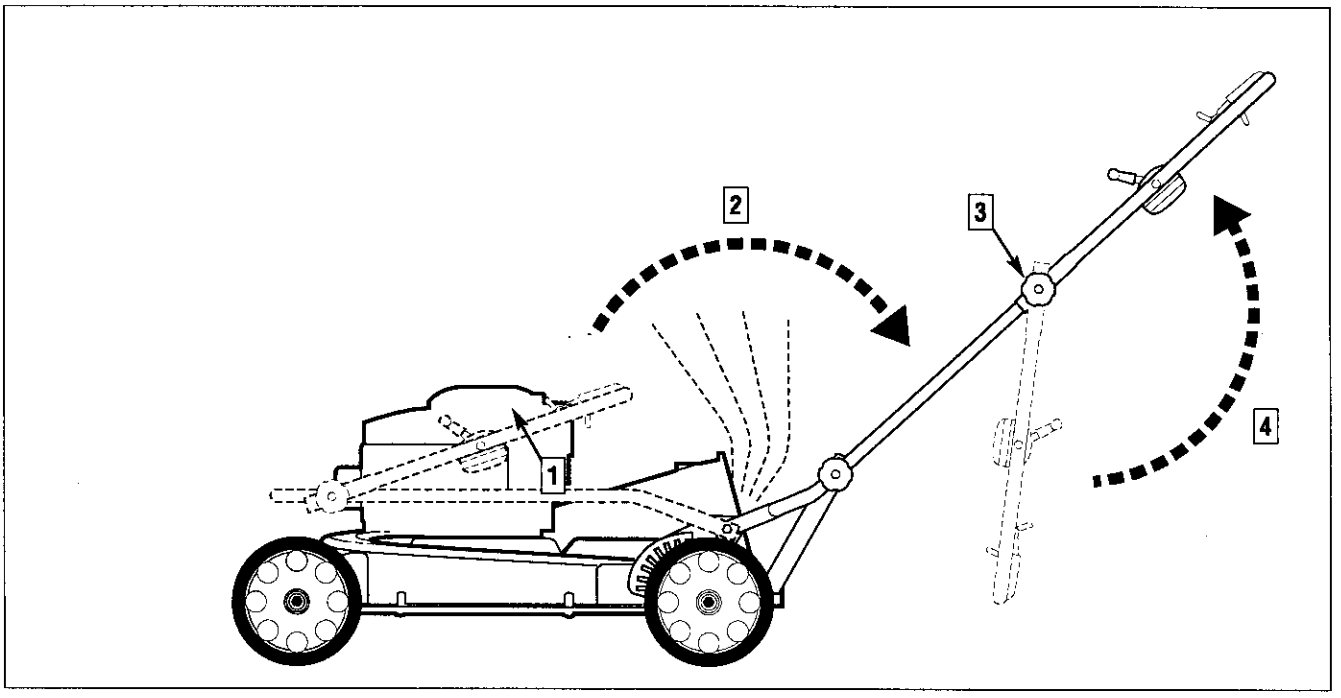


Figure 2-5: Unfolding the handlebar.

Step 3: Adjust Handlebar Height

1. Loosen one of the lower handlebar adjustment knobs (K, Figure 2-6) and give the knob a tap inward to free the square shaft on the screw (N, Figure 2-7) from the keyed slot (O) in the handlebar strut. Repeat this step for the other side.

2. Move the handlebar strut up or down to align the square shaft (N, Figure 2-7) with one of the three square keyed slots (O). The middle slot is the medium height setting.

3. Tighten the handlebar adjustment knobs very securely.

NOTE: Make sure that the square shaft seats squarely into the slot before tightening the adjustment knobs.

Step 4: Add Motor Oil to Engine

1. Move the mower to a level area.

2. Add motor oil according to the specifications and instructions provided in the separate Engine Owner's Manual.

- Keep oil level at the FULL mark on the dipstick to avoid engine damage.
- Change oil according to schedule and instructions in Engine Owner's Manual.

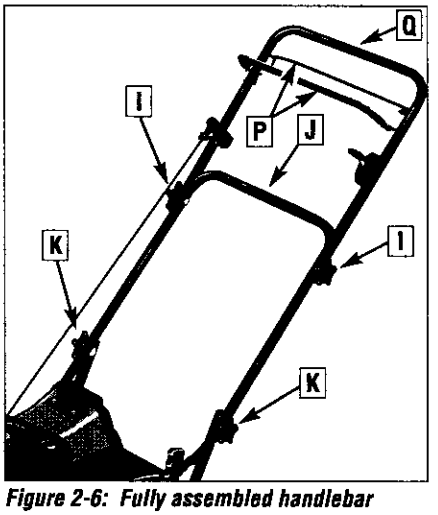


Figure 2-6: Fully assembled handlebar assembly.

Step 5: Perform Final Assembly Check

1. Check all nuts, screws, and handlebar adjustment knobs for tightness.

2. Be sure to read Section 1: *Safety*, Section 3: *Features and Controls* and Section 4: *Operation* before using the mower.

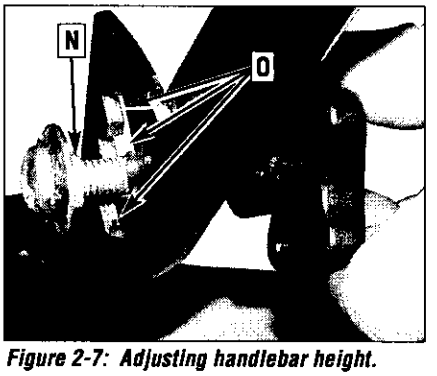


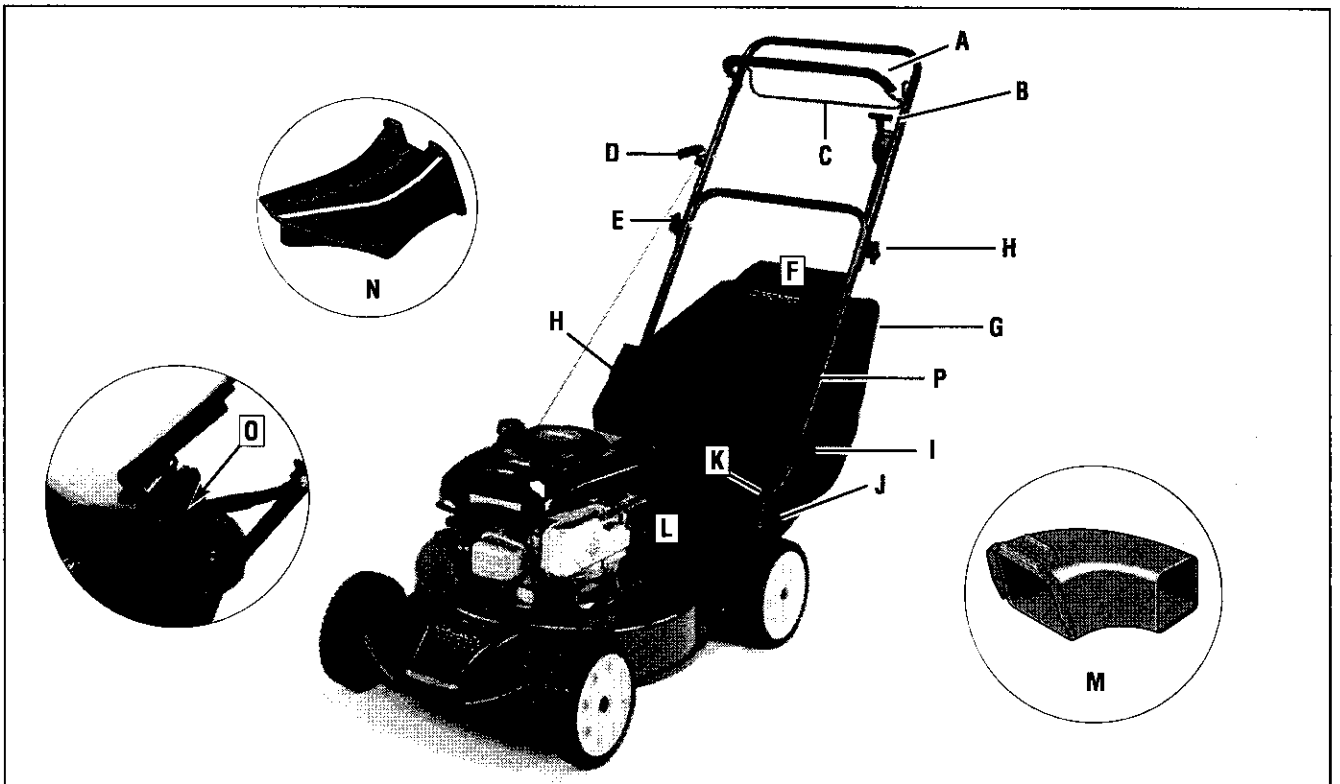
Figure 2-7: Adjusting handlebar height.

Step 6: Set Up Mowing Mode

Your mower can be set up for any of three mowing modes. These mowing modes can bag clippings, mulch clippings, or discharge clippings out the side. See *Setting Up Mowing Modes* in Section 4 for detailed descriptions and instructions on how to set up each mode.

NOTE: The mower is shipped in Mulching Mode. This means that the Mulching Plug is installed into the discharge outlet (Figure 2-1) and that the mower is ready to mulch grass clippings.

Section 3 Features and Controls



A: Operator Presence Control Bail
B: Wheel Speed Control
C: Wheel Drive Bail
D: Recoil Rope Starter
E: Upper Handlebar Adjustment Knob (2)
F: GrassGauge™ Grass Fill Indicator
G: Grass Catcher
H: Discharge Outlet Guard
I: Lower Handlebar Adjustment Knob (2)
J: Handlebar Height Adjuster (2)
K: Cutting Height Adjustment Lever
L: Belt Cover
M: Side-Discharge Chute
N: Mulching Plug
O: Discharge Outlet
P: Clutch Cable Adjuster

Figure 3-1

⚠ WARNING

Before operating your machine, carefully read and understand all safety, controls and operating instructions in this Manual, the separate Engine Owner's Manual and on the decals on the machine.

Failure to follow these instructions can result in serious personal injury.

INTRODUCTION

This Section introduces the features and controls found on the lawn mower. Carefully review the information in this Section, then read Section 4, *Operation* before using the mower.

MOWER ATTACHMENTS

The mower is supplied with three easily changed attachments —the Grass Catcher (I, Figure 3-1), Mulching Plug (N) and Side-Discharge Chute (M)— which provide three different mowing modes. See *Setting Up Mowing Modes* in Section 4 for detailed information on how to install and use the attachments.

A unique feature, the *Cub Cadet* Rapid Attach™ System, is incorporated into the design of the attachments. This system enables you to quickly and easily install the attachments without using tools.

Grass Catcher Attachment

Use the Grass Catcher (G, Figure 3-1) to collect clippings for disposal. The bag can hold over two bushels of clippings.

The Grass Catcher is equipped with the Cub Cadet® GrassGauge™ feature (F, Figure 3-1). The GrassGauge feature is a grass fill indicator that provides a visual alert when the bag is full. See Bagging Mode in Section 4 for detailed information.

Side-Discharge Chute Attachment

Use the Side-Discharge Chute (M, Figure 3-1) to direct grass clippings out the left side (from operator's position) of the mower. See *Side-Discharge Mode* in Section 4.

Mulching Plug Attachment

Use the Mulching Plug (N, Figure 3-1) to mulch lawn clippings. See *Mulching Mode* in Section 4.

MOWER CONTROLS

The following information identifies and describes the controls for all mower models.

Operator Presence Control Bail

The Operator Presence Control Bail (A, Figure 3-1) must be pulled back against the handlebar and held there while starting the engine and operating the unit. Releasing the bail will shut off the engine and stop the mower blade. The engine will not restart unless the bail is pulled back against the handlebar.

NOTE: This control disengages an engine brake when pulled back against the handlebar and engages the engine brake when released. The mower blade is bolted directly to the engine shaft, therefore it stops when the engine stops. The engine will not restart unless the bail is pulled back against the handlebar. See *Stopping the Engine and Mower Blade* in Section 4 for more information.

Wheel Drive Bail

The Wheel Drive Bail (C, Figure 3-1) engages the powered rear wheels when it is pulled up against the handlebar, and disengages the wheels when released. See *Mowing* and *Turning the Mower* in Section 4 for more information.

To move the mower without engine power, release the controls and push or pull the mower.

NOTE: The pinion gears inside the rear wheels may produce an occasional knocking sound when pushing or pulling the mower manually. This sound is harmless. Do not lubricate the drive wheels. Service the drive assembly only as instructed in Section 5.

Wheel Speed Control

The Wheel Speed Control (B, Figure 3-1) provides three different wheel speeds. Selections are:

- 1 for low speed
- 2 for medium speed
- 3 for high speed

See *Mowing* in Section 4 for more information.

Cutting Height Adjustment Lever

This control (K, Figure 3-1) provides six cutting heights, enabling you to choose the most appropriate height for the lawn condition. Cutting heights range from approximately 1-1/4-inches to 4 inches. See *Preparation for Mowing* in Section 4 for more information.

NOTE: Actual cutting height will vary according to turf conditions.

Recoil Rope Start

The recoil rope start (D, Figure 3-1) is used to pull-start the engine. See the Engine Owner's Manual for starting information specific to your engine. Also see *Starting the Engine* in Section 4.

Adjustable Handlebar Height

The mower provides three handlebar height settings (J, Figure 3-1). See *Step 5: Adjust Handlebar Height* in Section 2.

ENGINE CONTROLS

Throttle

Models SRA 621 has an engine that is equipped with a fixed throttle speed for the most efficient engine performance under varying loads.

Primer Bulb

The Primer Bulb is used to start a cold engine. See the Engine Owner's Manual for information specific to your engine.

Fuel Shut-Off Valve

The Fuel Shut-Off Valve (if so equipped) opens and closes the fuel line. See the Engine Owner's Manual for information specific to your engine.

Section 4 Operation

⚠ WARNING

Before operating the mower, carefully read and understand all safety, control and operating instructions in this Manual, the separate Engine Owner's Manual and the decals on the machine.

Failure to follow these instructions can result in serious personal injury.

⚠ WARNING

- **Never operate the mower with the discharge outlet guard removed or propped open.**
- **Do not operate mower without the Grass Catcher, Mulching Plug or Side-Discharge Chute in place.**
- **Never change mowing modes or empty the Grass Catcher while the engine is running.**
- **Check the condition of the Grass Catcher for excessive wear or deterioration. If damaged, contact an authorized dealer or the factory for a replacement.**

INTRODUCTION

Read this Section thoroughly before you start the engine. Then take the time to familiarize yourself with the mower's basic operation.

Find an open, level area and practice using the mower controls. Only after you become familiar with the mower should you use it in smaller areas or on uneven terrain.

CUB CADET ® RAPID ATTACH™ SYSTEM

The Rapid Attach System (Figure 4-1) is a feature designed into the mower deck which enables you to install and remove the Grass Catcher, the Side-Discharge Chute and the Mulching Plug quickly and easily.

The Grass Catcher and the Side-Discharge Chute both use the same system. This system consists of an elongated tab (A, Figure 4-1) on the top of the discharge outlet and a receptacle (B) built into the top of the Grass Catcher door and the Side-Discharge Chute.

Attaching the Mulching Plug is just as easy. Hold open the discharge outlet guard (K, Figure 4-1) and insert the plug (L), with the word "TOP" facing up, into the discharge outlet.

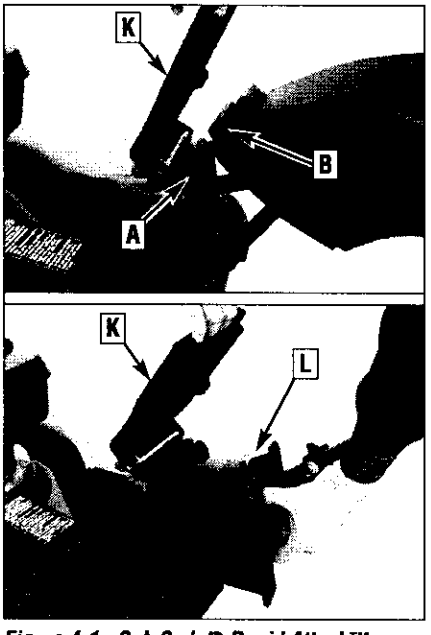


Figure 4-1: Cub Cadet® Rapid Attach™ System.

SETTING UP MOWING MODES

The lawn mower has three mowing modes: bagging mode, mulching mode and side-discharge mode. The following provides descriptions of the three modes and how to implement them.

Bagging Mode

The mower is set up for bagging mode when the Grass Catcher is attached to the discharge outlet.

The Grass Catcher is equipped with two handles and a swing-open door that makes emptying easy. Use the wire-formed handle to help attach, remove, transport and empty the bag. Use the rear cloth handle to lift the bottom of the bag when emptying.

The Grass Catcher also has a GrassGauge™ grass-fill indicator (Figure 4-3) which makes it easy to tell when the bag is full. The indicator is a rectangular piece of cloth sewn to the top of the bag. The indicator lays flat against the bag when the bag is full (F, Figure 4-3) and billows (G) when the bag is not full.

NOTE: Windy conditions may affect the indicator's ability to provide an accurate bag fill reading.

Setting Up Bagging Mode

1. With the engine and blade stopped, remove the Mulching Plug or Side-Discharge Chute.

2. Grasp the Grass Catcher by the wire-formed handle. With the other hand, hold open the discharge outlet guard (C, Figure 4-2).

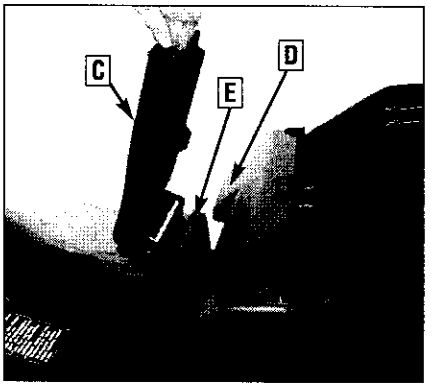


Figure 4-2: Attaching Grass Catcher.

3. Lower (at an angle) the bag door (D, Figure 4-2) onto the tab (E) on the discharge outlet. Make sure the bag door seats squarely onto the tab and covers the tab completely.

Removing the Grass Catcher

1. When mowing, the Grass Catcher is full when the grass fill indicator lays flat against the bag (F, Figure 4-3).

An alternative method for judging bag fullness is to nudge the bag with your foot. The bag will give easily when not full, and will resist when full.

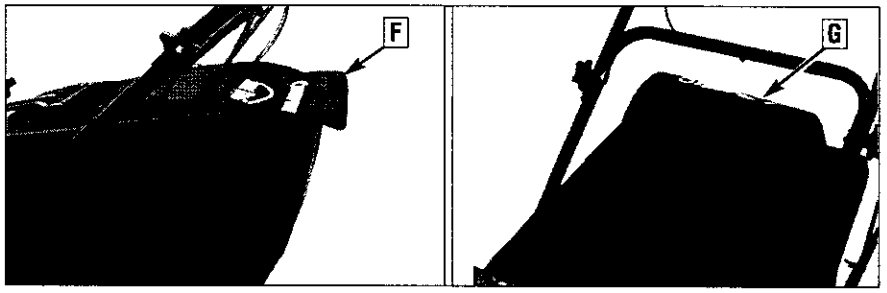


Figure 4-3: GrassGauge™ indicates when bag is full (F) and not full (G).

2. With the engine and blade stopped, hold open the discharge outlet guard (C, Figure 4-2). With the other hand, grasp the wire-formed handle and guide the bag up and off the discharge outlet.

Mulching Mode

The mulching mode cuts and recuts grass clippings within the mower housing before recycling the finely cut clippings into the lawn. Mulching makes it easier for the the lawn to absorb the grass nutrients back into the soil.

Setting Up Mulching Mode

1. With the engine and blade stopped, remove the Grass Catcher or the Side-Discharge attachment.

2. Lift open the discharge outlet guard (K, Figure 4-1).

3. Position the plug with the word "TOP" facing up and push the Mulching Plug firmly into the discharge outlet (Figure 4-4).

4. The plug's flange (rim) must fit snugly against the edge of the discharge outlet to ensure efficient mulching (Figure 4-4).

Figure 4-4: Installed Mulching Plug.

Removing the Mulching Plug

1. With the engine and blade stopped, lift open the discharge outlet guard.

2. Grasp the Mulching Plug's hand-grip with one hand and pull back until the plug clears the discharge outlet.

Side-Discharge Mode

Use the Side-Discharge Chute to disperse grass clippings onto the lawn.

Setting Up the Side-Discharge Chute

1. With the engine and blade stopped, remove the Grass Catcher or Mulching Plug.

2. Lift open the discharge outlet guard (K, Figure 4-1) and lower the Side-Discharge Chute opening (B, Figure 4-1) onto the discharge outlet tab (A). Make sure it covers the tab completely.

Removing the Side-Discharge Chute

1. With the engine and blade stopped, lift open on the discharge outlet guard (K, Figure 4-1).

2. With the other hand, grasp the Side-Discharge Chute and guide it up and off the discharge outlet tab.

PREPARATION FOR MOWING

Review Section 1: *Safety* and Section 3: *Features and Controls*. Then read this Section completely before starting the mower.

1. **Move lawn mower to a clear, level area** - If on a grassy area, make sure the grass is low enough as to not interfere with blade rotation when starting.

2. **Inspect area to be cut** - Check for and remove debris such as rocks, toys, wire, bones, sticks, etc., which could be picked up and thrown by the blade. Also inspect the terrain for holes or other obstacles.

3. **Check mower** -

- Check the mower for loose or missing hardware. Tighten or replace before starting the mower.
- Check the Operator Presence Control Bail for freedom of movement.
- Check the Wheel Drive Control Bail for freedom of movement.
- Check blade for excessive wear or damage. Do not operate the mower with a damaged blade.
- Securely connect the spark plug wire to the spark plug.

4. **Adjust handlebar height** - The mower has three handlebar heights which can be adjusted as follows:

   a. Loosen one of the lower handlebar adjustment knobs (H, Figure 4-5) and give the knob a tap to free the handlebar strut (K) for adjustment. Repeat for the other side.

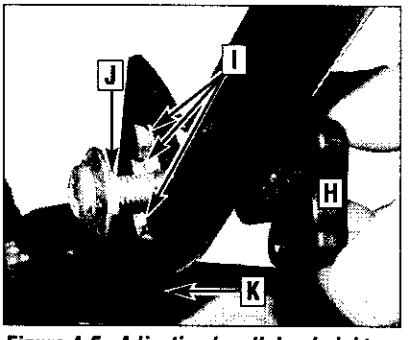


Figure 4-5: Adjusting handlebar height.

   b. Adjust the handlebars to the desired height and then tighten the handlebar adjustment knobs. Make sure that the square shank on the screw (J, Figure 4-5) seats squarely into one of the square slots (I).

⚠ WARNING

To avoid personal injury, never adjust cutting height while engine is running. Release all handlebar controls and wait for all motion to stop before adjusting cutting height.

5. **Set cutting height** - You can set the mower to any of six cutting heights. Cutting heights range from approximately 1/1/4" to 4".

NOTE: Actual cutting height will vary according to grass, terrain, and soil conditions.

a. To adjust cutting height, pull the Cutting Height Lever (A, Figure 4-6) away from the mower to release the tab from the slot. Be sure to grip the lever firmly to prevent the mower deck from dropping down rapidly.

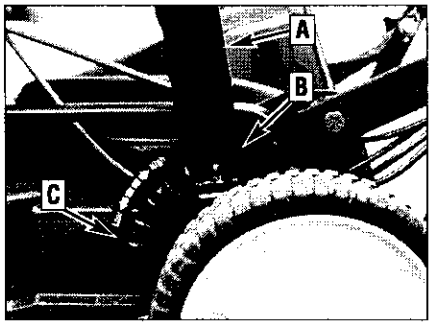


Figure 4-6: Cutting height adjustment.

b. While pulling the lever away from the mower, move the lever towards the back of the mower (B, Figure 4-6) for a higher cut or towards the front of the mower (C) for a lower cut.

c. Seat the lever's tab squarely into the slot.

IMPORTANT: The mower is equipped with a safety flap located on the rear of the mower deck. After setting the cutting height, be certain that the flap hangs freely and is not caught under the deck.

6. Prepare Engine -

- Check oil level - If this is a new mower, add motor oil as described in the Engine Owner's Manual; otherwise, check oil level and add as recommended in the Engine Owner's Manual.

⚠ DANGER

GASOLINE IS HIGHLY FLAMMABLE AND ITS VAPORS ARE EXPLOSIVE.

Follow the gasoline safety rules in this Manual (Section 1) and in the separate Engine Owner's Manual.

Failure to follow gasoline safety instructions can result in serious personal injury and property damage.

- Add fuel - Fill the fuel tank with gasoline according to the directions in the separate Engine Owner's Manual. Follow all instructions and Safety rules carefully.
- Check air filter - The engine is equipped with an air filtration system. When clogged, it causes starting difficulties and operates inefficiently. See the Engine Owner's Manual for information on how to maintain the air filter system.

OPERATING THE MOWER

The following procedures explain how to start, stop and operate the mower.

Starting the Engine

⚠ DANGER

Do not operate the engine in an enclosed area. Engine exhaust contains carbon monoxide, a deadly gas that is odorless, colorless and tasteless. Always run the engine outdoors and make sure there is adequate ventilation.

1. Open the fuel shut-off valve, if so equipped.

2. Prime the engine by pushing the primer bulb firmly 3 times.

NOTE: Priming may not be necessary when restarting a warm engine. However, cool weather may require priming again. See the Engine Owner's Manual for priming information.

⚠ WARNING

To avoid injury or property damage, thoroughly inspect area where mower is to be used and remove all stones, sticks, wires, bones, nails and other foreign objects.

3. Stand behind the mower handlebar and pull the Operator Presence Control Bail (A, Figure 3-1) back against the handlebar and hold.

4. Check behind you for obstacles, then slowly pull the recoil rope (E, Figure 3-1) until resistance is felt. Pull the rope out rapidly to start engine. Let the rope return slowly. If the engine fails to start after three pulls, repeat steps 2-4.

Stopping the Engine and Mower Blade

1. Release the Operator Presence Control Bail (A, Figure 3-1) to stop the engine and blade.

⚠ WARNING

To avoid personal injury, keep hands and feet clear of mower blade or other rotating parts.

Emergency Stopping

Release all controls. This stops the engine, wheel movement and the blade.

IMPORTANT: The mower is equipped with a Blade Control System which is designed to stop the mower blade within three (3) seconds after releasing the Operator Presence Control Bail. This system also stops the engine.

⚠ WARNING

If the Blade Control System does not operate properly, the blade could continue to rotate for longer than three (3) seconds after releasing the Operator Presence Control Bail. If this occurs, discontinue using the mower and immediately contact your local authorized dealer or the factory for instructions. Do not operate the mower until the Blade Control System is repaired.

Failure to do this could result in personal injury or property damage.

Mowing

1. Start the engine. See *Starting the Engine* in this Section.

2. Use the Wheel Speed Control to select a wheel speed. The mower has three wheel speeds. Select a slower speed when first starting out (or when learning how to use the mower), then move into faster speeds if needed.

- Low Speed **(1)** - is engaged when the lever is pulled all the way back. Low speed provides the most efficient cut.
- Medium Speed **(2)** - is engaged when the lever is moved to the middle detent position (the control lever will click into place). This speed is a good compromise for speed and cutting performance.
- High Speed **(3)** - is engaged when the lever is pushed all the way forward. High speed enables you to cover the cutting area more quickly, but may result in a less efficient cut.

This speed is most effective on short, thin grass.

3. Pull the Wheel Drive Bail (B, Figure 4-7) up against the handlebar to power the rear wheels and move forward.

NOTE: Release the Wheel Drive Bail and continue to hold the Operator Presence Control Bail (A, Figure 4-7) to pause during mowing with the engine running, or to maneuver in tight or difficult conditions.

Turning the Mower

1. For short turns, release the Wheel Drive Bail (B, Figure 4-7) but continue to hold the Operator Presence Control Bail (A). This disengages the wheel drive, but the engine continues to run.

2. Press down on the handlebar to raise the front end slightly.

3. Push the handlebar opposite the direction to which you want to turn.

4. For longer, wider turns, there is no need to disengage the powered wheels.

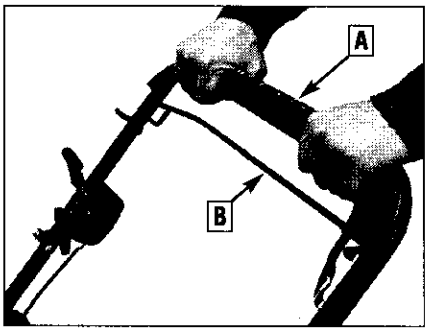


Figure 4-7 : Disengaging the wheels with engine running.

MOWING TIPS AND HINTS

Mow When Lawn Is Dry

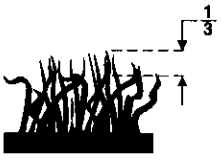
Do not mow grass when it is wet. Wet grass is difficult to mow and clumps together inside the mower housing. This causes inefficient operation and an uneven cut. Additionally, wet clippings stick together in unsightly clumps on top of the lawn which causes inefficient absorption of nutrients back into the soil.

Avoid Midday Mowing

If possible, mow in the late afternoon or early evening to avoid exposing newly cut grass to the drying effects of direct sunlight.

Never Cut Lower Than One-Third Grass Height In One Pass

If possible, mow often enough or high enough to avoid cutting off more than 1/3 of the grass height. For example, if you are maintaining your lawn at 2", mow before it reaches 3".



Removing more than 1/3 of total grass blade length may expose tender, shaded stems to the drying effects of the sun and wind and produce a dull, brown-looking lawn. Cutting off too much leaf area is also a shock to the root system and it may take weeks to repair the damage.

Clean Mower Frequently

Clean the mowing housing frequently to remove any grass build-up. Refer to the cleaning instructions in Section 5.

Vary Cutting Pattern

Vary the cutting pattern from week to week. One week mow horizontally.

Mow vertically the following week. This helps prevent wear patterns and soil compaction.

Side-Discharge Mowing

When in Side-Discharge mode, try cutting in a circular pattern with the chute inward, facing the uncut area. This results in less clumping by recutting the clippings for a finer, cleaner appearance.

Avoid Sharp Turns

Sharp turns may produce an uneven cut. If possible, follow natural ground contours or use gentle, sweeping turns for a better looking lawn.

Mow Long Grass Twice

If the grass is 5" long or more, cut it once at the highest setting and then mow it again at the desired height. This method may produce too many clippings to use the mulcher effectively. Use the Grass Catcher to remove the grass clippings.

Use Extreme Caution on Slopes

When operating on sloping ground, exercise extreme caution and use good common sense to avoid possible personal injury or property damage.

⚠ WARNING

To avoid injury or property damage:

- **Maximum safe operating angle is 15°.**
- **Exceeding maximum safe operating angle may cause tipping or loss of footing.**
- **Do not mow wet slopes.**
- **Mow across slopes, not up and down.**
- **Exercise extreme caution when changing direction on slopes.**

Do not mow steep slopes! Avoid slopes greater than 15 degrees, or wherever footing is unsure. If a slope is difficult to stand on, it is probably too steep to mow (in such a case, it may be best to establish a ground cover that doesn't require mowing).

Do not mow on slopes when the ground is wet. Mow across the face of slopes, never up and down. Slow down and exercise extreme caution when changing direction on slopes. Keep the Wheel Drive Bail engaged to ensure easier operation and better control of the mower

Empty Grass Catcher When Full

Emptying the Grass Catcher when it is full results in better collection and mower performance. Empty the bag as soon as the bag is filled. See *Bagging Mode* for more information on the GrassGauge feature.

Match Speed To Terrain and Conditions

Adjust the speed to grass conditions and terrain. Use Low and Medium speeds for normal mowing conditions. You'll get better results at slower speeds, especially if the grass is tall or lush. Use High speed to transport the mower or when grass conditions are light and appearance is not as important.

Keep Mower Blade Sharp

A sharp blade cuts the grass cleanly, resulting in a smooth, evenly cut lawn. A dull blade tears at the grass and will fray the tips so that they dry out quickly resulting in a dull, brown-looking lawn.

See *Blade Sharpening and Balancing* in Section 5 of this manual for more information.

Mulching Leaves

A light covering of leaves can be effectively mulched into the turf. As the leaves decompose, they provide valuable organic matter and minerals to the soil.

To ensure effective mulching, be sure the leaves are dry. Use a slow travel speed and don't try to mulch a deep layer of leaves.

NOTE: Oak leaves are acidic and may affect the soil pH level when mulched. A pH soil test should be used if oak leaves are abundant on your property.

Section 5 Maintenance

⚠ WARNING

Before inspecting, cleaning or servicing the machine, shut off engine, wait for moving parts to stop, disconnect spark plug wire and move wire away from spark plug.

Failure to follow these instructions can result in serious personal injury or property damage.

REQUIRED MAINTENANCE SCHEDULE

PROCEDURE	Before Using	Every 10 Hours	Every 25 Hours	As Noted
Check engine oil level	●			After each 5 operating hours
Change engine oil				◆ ▲
Service spark plug				After each 100 operating hours
Check nuts and screws		●		†
Service foam pre-cleaner air filter (if so equipped)				▲
Service paper air filter (if so equipped)				▲
Inspect spark arrester (if so equipped)				Annually
Clean engine	●			▲
Clean mower housing				After each use
Clean under belt cover		●		
Check clutch spring extension			●	†
Clean drive-wheel pinion gears				After each 50 operating hours

◆ Change more frequently in dusty or dirty conditions. Change after first 2 hours of break-in operation.
† Check after first 2 hours of break-in operation.
▲ See Engine Owner's Manual for service recommendations.
■ Before and after storing unit for 3 weeks or more.

⚠ WARNING

When working near the blade, wear heavy leather gloves to protect yourself from the sharp edges on the blade.

ENGINE OIL SERVICE

Check the engine oil level before starting the engine each day and after each 5 hours of *continuous* operation. Running the engine when the oil level is low will quickly ruin the engine.

Change engine oil after the first 2 hours of break-in operation, thereafter, in accordance with your Engine Owners Manual. Change more often in extremely dirty or dusty conditions. Refer to the Engine Owner's Manual for detailed information on changing oil.

SERVICING THE AIR CLEANER

The engine air cleaner filters dirt and dust out of the air before it enters the carburetor. Operating the engine with a dirty, clogged air cleaner can cause poor performance and damage to the engine. Never operate the engine without the air cleaner installed. Inspect and service the air cleaner more often if operating in very dusty or dirty conditions.

Service the air cleaner as instructed in the separate Engine Owner's Manual.

REMOVING AND REPLACING THE BELT COVER

Removing the Belt Cover

1. Use a 3/8" wrench to remove both screws (D, E, Figure 5-1).

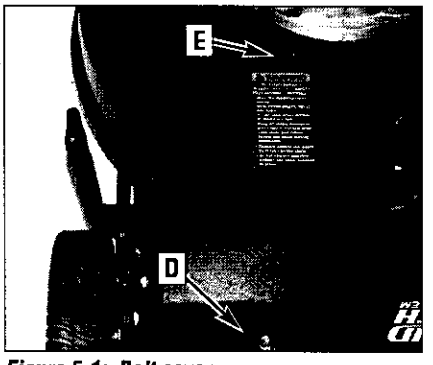


Figure 5-1: Belt cover

2. Lift the back end of the cover then carefully pull out.

⚠ WARNING

Do not operate the mower without the belt cover in place. Doing so could result in personal injury or damage to components.

Replacing the Belt Cover

1. Seat the rear end of the cover. Make sure that both control cables are routed through the cutout in the rear of the cover. This will help prevent damage caused by pinching the cables under the cover or contact with the transmission pulley or belt.

2. Tighten screws snugly. Do not overtighten (D, E, Figure 5-1).

TIPPING THE MOWER FOR SERVICE

1. Before tipping the mower, make sure that the fuel tank is empty to prevent the possibility of gasoline spillage. See "DANGER" statement that follows.

Section 5: Maintenance

⚠ WARNING

Before inspecting, cleaning or servicing the machine, shut off engine, wait for moving parts to stop, disconnect spark plug wire and move wire away from spark plug.

Failure to follow these instructions can result in serious personal injury or property damage.

2. When servicing the underside of the mower, the mower should be tipped only in the direction of the muffler. Tipping the mower away from the muffler could result in engine damage or difficult starting.

SPARK PLUG SERVICE

Inspect and clean or replace the spark plug after every 100 operating hours or annually. Set the gap as described in the separate Engine Owner's Manual.

In some areas, local law requires using resistor spark plugs to suppress ignition signals. If the engine was originally equipped with a resistor spark plug, replace with the same type.

CLEANING THE ENGINE

The engine must be kept clean to insure smooth operation and to prevent damage from overheating. Refer to the Engine Owner's Manual for more information.

CLEANING UNDER THE MOWER HOUSING

Check the mower regularly for grass build-up. Cleaning under the mower deck should be done after (rather than before) operating the mower, as grass is moist and removed more easily.

1. Tip mower towards the muffler onto its side. See *Tipping the Mower for Service* in this Section.

2. Brush or scrape off grass build-up.

CLEANING THE GRASS CATCHER

Bag cleanliness affects collection performance as a dirty bag will restrict air flow. Clean the Grass Catcher bag annually, more often in dusty environments.

IMPORTANT: Do not wash or dry the Grass Catcher in a washing machine or dryer.

1. To clean the bag, remove it from the mower and hand wash the fabric with mild detergent.

⚠ DANGER

Before servicing the underside of the mower:

- **MOVING PARTS HAZARD! Stop engine, wait for all parts to stop moving, and disconnect spark plug wire.**
- **FIRE - EXPLOSION HAZARD! Gasoline is highly flammable and its vapors are explosive.**
  1. **Drain fuel into an approved container outdoors, away from open flame.**
  2. **Be sure engine and muffler are cool before draining gasoline.**
  3. **Do not smoke.**

Failure to comply with the above can result in serious personal injury and property damage.

2. Rinse the bag thoroughly with clean water and allow to dry completely before using. Do not use a damp bag.

CLEANING UNDER BELT COVER

Check underside of belt cover for grass clippings every 10 hours of use.

1. Remove the belt cover. See *Removing the Belt Cover* in this Section.

2. Remove any grass clippings or debris.

3. Replace belt cover. See *Replacing the Belt Cover* in this Section.

SPARK ARRESTER SCREEN SERVICE

If the engine muffler is equipped with a spark arrester screen, remove and clean it according to the time intervals and instructions in the separate Engine Owner's Manual.

CARBURETOR/GOVERNOR CONTROL ADJUSTMENTS

The carburetor was adjusted at the factory for best operating speed. Refer to the separate Engine Owner's Manual for any adjustment information or see your authorized engine service dealer.

The governor controls the maximum safe operating speed and protects the engine and all moving parts from damage caused by overspeeding. Do not tamper with the engine governor settings. Seek authorized service if a problem exists.

MOWER BLADE MAINTENANCE

Blade Inspection

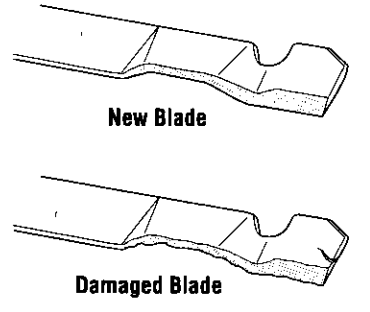
1. Tip mower towards the muffler onto its side. See *Tipping the Mower for Service* in this Section.

⚠ WARNING

Never reach under mower deck while the engine is running. Mower blade rotates at all times while engine is running and up to 3 seconds after it is shut off.

2. Inspect periodically for a dull or slightly nicked blade. Sharpen if needed. Also check for a deformed, cracked, or excessively worn blade (Figure 5-2). Do not use the mower if any of these conditions exist. Replace the blade immediately.

3. Check the blade screw for tightness. If loose, tighten to 35 ft-lbs with a 3/4" torque wrench.



Replace blade immediately if cracked, deformed or badly nicked.

Figure 5-2: Mower blade inspection.

⚠ WARNING

Before inspecting, cleaning or servicing the machine, shut off engine, wait for moving parts to stop, disconnect spark plug wire and move wire away from spark plug.

Failure to follow these instructions can result in serious personal injury or property damage.

⚠ WARNING

Mower blade is sharp.

- **Wear heavy leather gloves when working near or with blade for protection from sharp edges.**
- **Wear safety approved eye protection when sharpening blade to protect eyes from flying metal debris.**

Removing Mower Blade

IMPORTANT: The blade coupler (D, Figure 5-5) may come off the engine shaft when removing the blade. If it does, do not lose the square key (C). The key fits into a square slot inside the blade coupler. Without it, the blade will not rotate.

1. Remove the spark plug wire from the spark plug and move it away.

2. Tip mower towards the muffler onto its side. See *Tipping the Mower for Service* in this Section.

3. Use a 3/4" wrench to loosen the blade screw (A, Figure 5-5). Hold the blade with a gloved hand to prevent the blade from rotating.

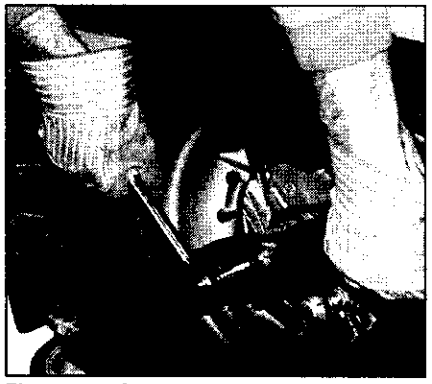


Figure 5-3: Removing or installing blade.

4. Remove blade screw and Belleville washer (A, B, Figure 5-5) .

5. Remove blade. You may have to give the blade a tap to jar it loose from the mounting tabs.

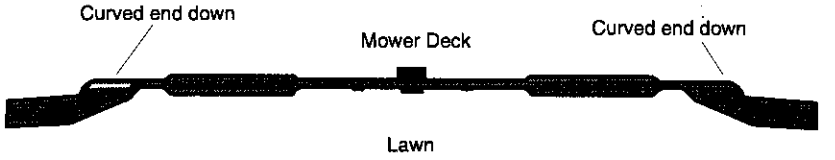


Figure 5-4: Correct blade installation.

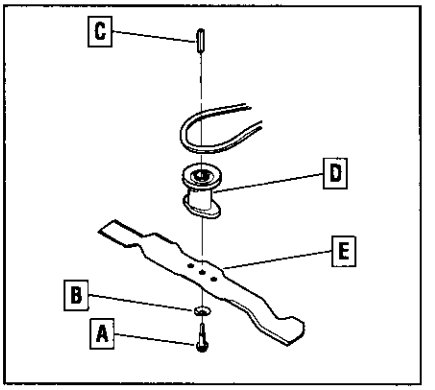


Figure 5-5: Mower blade assembly.

Installing Mower Blade

1. Remove the spark plug wire from the spark plug and move it away.

2. Tip mower towards the muffler onto its side. See *Tipping the Mower for Service* in this Section.

3. If the blade coupler (D, Figure 5-5) and/or square key (C) came off the engine shaft during blade removal, reinstall those parts back onto the engine shaft.

4. Position the blade with the curved ends facing downward (Figure 5-4).

5. Slip the Belleville washer (B, Figure 5-5) onto the screw (A). Face the dished-in side to the blade.

6. Mount the blade onto the two tabs of the blade coupler. Make sure that you seat the blade completely onto the coupler.

7. Insert the screw and washer through the blade and into the blade coupler. Tighten with a torque wrench to 35 ft-lbs.

Sharpening and Balancing Mower Blade

IMPORTANT: We recommend that the blade be sharpened by a professional sharpening service. Replace a cracked or severely worn blade with a new one.

1. Remove blade from the mower. See *Removing Mower Blade.*

2. Clamp the blade in a vise. Use a metal file or grinder to sharpen the blade while maintaining the original cutting angle. It is very important to maintain the original cutting bevel to insure the most effective cut.

3. To retain blade balance, remove the same amount of material from both ends of the blade.

4. To check blade balance, place the blade on a rounded pivot such as a pencil or pen under the center hole. Hold blade parallel to ground then release. See Figure 5-6. If blade is unbalanced, the heavier side will lean downward.

5. Use a file to lightly remove material from the heavier side of the blade.

6. See *Installing Mower Blade* for information on how to re-install the blade.

REMOVING AND REPLACING DRIVE BELT

This procedure can be made easier by removing the blade (see *Removing Mower Blade)*; however, blade removal is not absolutely necessary.

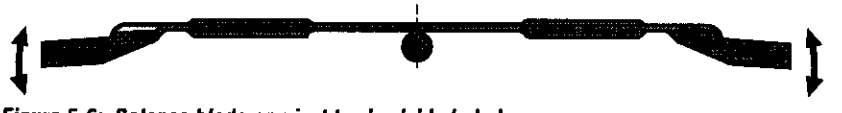


Figure 5-6: Balance blade on pivot to check blade balance.

Section 5: Maintenance

⚠ WARNING **Before inspecting, cleaning or servicing the machine, shut off engine, wait for moving parts to stop, disconnect spark plug wire and move wire away from spark plug.**
Failure to follow these instructions can result in serious personal injury or property damage.

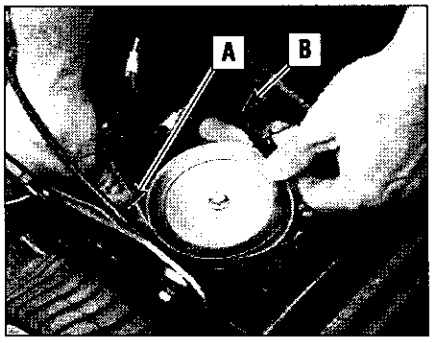


Figure 5-7: Press down on point "A" to remove or install belt.

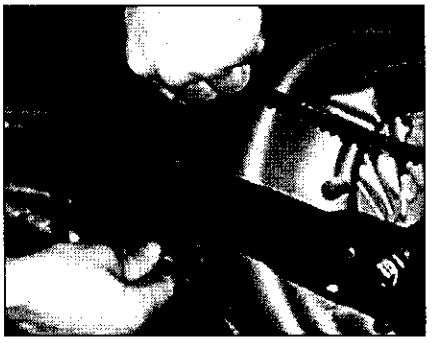


Figure 5-8: Remove or install belt around blade.

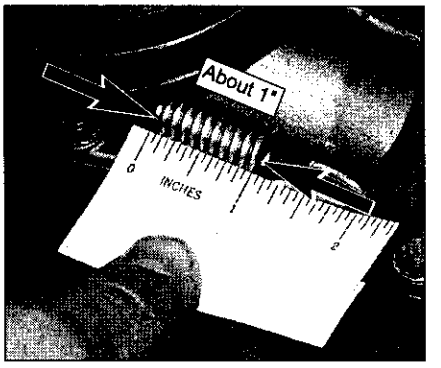


Figure 5-9: First measurement with drive clutch spring disengaged.

1. Remove the belt cover. See *Removing the Belt Cover* in this Section.

2. Press firmly downward on the cable mounting bracket (A, Figure 5-7) until it tilts and the belt slackens.

3. Remove belt (B, Figure 5-7) from transaxle pulley.

4. Tip the mower onto its side (towards the muffler) and pull the belt through the cutout in the housing.

5. Do this step only if you *did not* remove the mower blade — otherwise, go onto step 6.

a. *Make sure the spark plug wire is removed from the spark plug and moved away from the plug.* Rotate the blade so that one end is somewhere within the front of the mower housing.
b. Work the belt around and over that end of the blade (Figure 5-8).
c. Rotate the blade so that the other end is somewhere within the front of the mower housing and work the belt around and off the mower.
d. Work the new belt around and over the same end of the blade.
e. Rotate the blade so that the other end of the blade is somewhere within the front area of the mower housing and work the new belt around and over the same end.

6. Seat the new belt into the groove on the engine pulley that is located on the blade drive shaft.

7. Grasp one end of the new belt and insert it in and through the cutout in the housing.

8. Tip the mower back down to its normal position.

9. Apply firm pressure against the cable mounting bracket on the transaxle assembly (A, Figure 5-7) until it tilts forward.

10. Pull the belt over the transaxle pulley and into the groove.

11. Release pressure on the transaxle bracket slowly. Make sure that the belt seats properly into the pulley groove.

12. Check the other end of the belt (engine pulley) to insure that it is seated properly into the groove.

13. Reinstall the belt cover. See *Replacing the Belt Cover* in this Section.

ADJUSTING WHEEL DRIVE CONTROL

Loss of wheel drive indicates that the Wheel Drive Control may need adjustment. This condition could also be the result of not completely engaging a wheel speed gear setting. Before you adjust the wheel drive control cable, move the Wheel Speed Control Lever to 1 (all the way back) or to 3 (all the way forward). If the wheels still do not engage, adjust the wheel drive clutch spring.

1. Remove the belt cover (See *Removing and Replacing the Belt cover)* and locate the wheel drive clutch spring.

2. Measure the length of the body of the wheel drive clutch spring (Figure 5-9).

3. Engage the Wheel Drive Control Bail and measure the extended length of the spring body again (Figure 5-10).

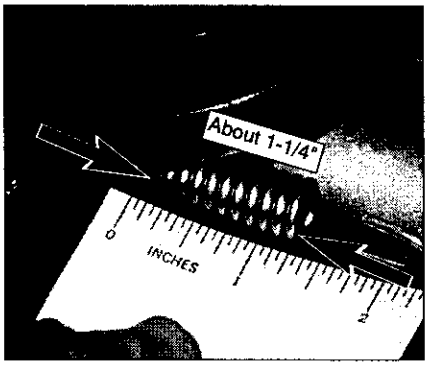


Figure 5-10: Second measurement with drive clutch spring engaged.

4. The difference between the two measurements should be approximately 1/4". Adjust if the result does not meet this specification. Spring extension is adjusted with a cable adjuster (R, Figure 3-1) on the wheel drive cable. To adjust, hold the turnbuckle (A, Figure 5-11) while turning each adjuster (B, Figure 5-11) away from the turnbuckle 1/2 turn each.

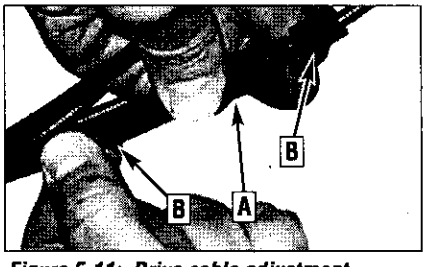


Figure 5-11: Drive cable adjustment.

⚠ WARNING **Before inspecting, cleaning or servicing the machine, shut off engine, wait for moving parts to stop, disconnect spark plug wire and move wire away from spark plug.**

Failure to follow these instructions can result in serious personal injury or property damage.

5. Measure again, as in steps 2, 3 and 4 to determine if you need to continue adjusting. Adjust until the two spring measurements differ in length by approximately 1/4".

6. Reinstall the belt cover. See *Replacing the Belt Cover.*

GRASS CATCHER PARTS REPLACEMENT

The Grass Catcher is made up of three parts: the door, the frame, and the cloth bag. The following procedure explains how to remove and replace each of the parts.

Replacing the Grass Catcher Door

1. Remove the Grass Catcher from the mower.

2. The door is mounted onto rods at both ends of the wire-formed handle. Squeeze the handle with one hand while pulling the top-side of the door (C, Figure 5-12) out and off the end of the rod (D).

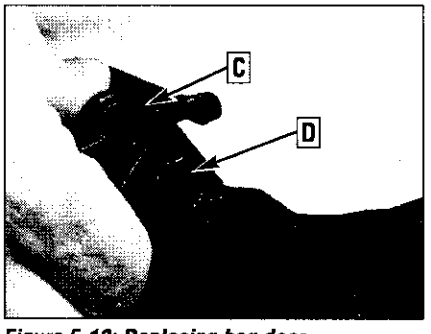


Figure 5-12: Replacing bag door.

3. To replace the door, insert one of the ends of the wire-formed handle (D, Figure 5-12) into the hole in the top-side of the door (C).

4. Squeeze the handle with one hand while you pull the other side of the door (C, Figure 5-12) up and over the end of the other rod (D). The door should swing freely when done.

Replacing the Cloth Bag or Frame

1. Remove the Grass Catcher from the mower.

2. Remove the Grass Catcher door. See *Replacing the Grass Catcher Door.*

3. The bag is mounted over the wire frame and under the door, and is held in place with four plastic clips (E, Figure 5-13). Remove each of the clips by pulling from an end and off the frame (F).

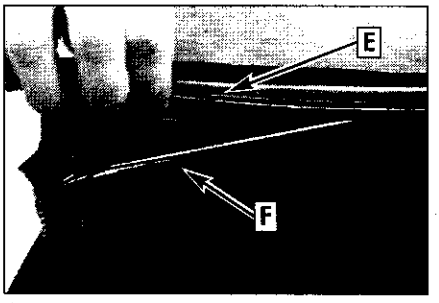


Figure 5-13

4. Pull the bag off the frame.

5. To replace the frame or bag, position the top of the bag (long side) up. Position the top of the frame (wire-formed handle side) up. Pull the open end of the bag over the rear end of the frame and under the handle.

6. Press each of the bag's four plastic clips (E, Figure 5-13) onto the frame opening (F).

7. Install the door. See step 3, *Replacing the Grass Catcher Door.*

EXTENDED STORAGE

Use the following suggestions when storing the mower for extended periods of time.

- Store mower in a level position.
- Thoroughly inspect the mower for any loose, broken, or missing parts. Repair or replace as necessary.
- Remove all fuel from fuel tank or use a fuel stabilizer additive as directed in Engine Owner's Manual.

⚠ DANGER

- **Never store mower with fuel in fuel tank inside a building where fumes can reach an open flame or spark, or where ignition sources are present such as hot water and space heaters, furnaces, clothes dryers, stoves, electric motors, etc. Make sure engine is cool before storing.**
- **Drain gasoline outdoors into an approved container.**
- **Do not smoke and keep away from open flame.**

Failure to follow these instructions will result in serious personal injury or property damage.

- Perform engine maintenance as described in the Storage instructions of the Engine Owner's Manual.
- Check all nuts and screws for tightness.
- On electric start models remove key from keyswitch.
- Charge the battery for 24 to 48 hours before and after seasonal storage.
- Disconnect spark plug wire from spark plug.

Folding the Handlebar Assembly

IMPORTANT: To avoid damage to the cables and wiring, always fold the top section of the handlebar assembly backward. Cables can be severely bent if folded incorrectly.

1. Loosen the top two handlebar adjustment knobs (1, Figure 5-16) while supporting the assembly with one hand.

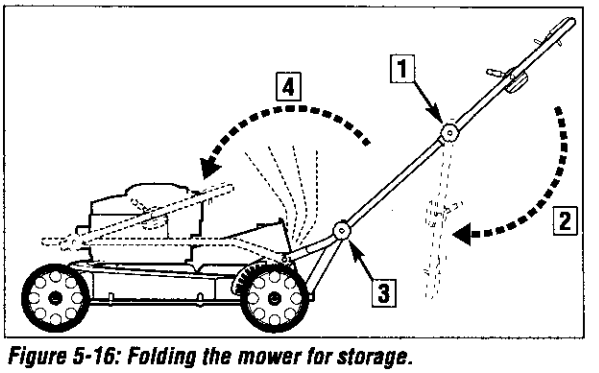


Figure 5-16: Folding the mower for storage.

Section 5: Maintenance

⚠ WARNING **Before inspecting, cleaning or servicing the machine, shut off engine, wait for moving parts to stop, disconnect spark plug wire and move wire away from spark plug.**

Failure to follow these instructions can result in serious personal injury or property damage.

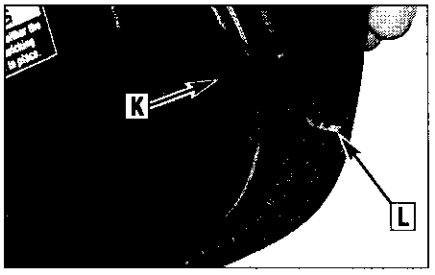


Figure 5-17: Dislodging handlebar struts.

2. Fold the top section of the assembly backward (2, Figure 5-16). Guide the cables carefully while folding. Be sure not to bend, pinch, or stretch the cables.

IMPORTANT: To avoid damage to cables, always fold the top section of the handlebar assembly backward and the bottom section forward.

3. Still supporting the handlebar assembly with one hand, loosen the two lower handlebar adjustment knobs (3, Figure 5-16) just enough to dislodge both handlebar struts (L, Figure 5-17) from the slots (K) in the wheel bracket assembly.

NOTE: The handlebar height could inadvertently change if the lower adjustment knobs are loosened excessively during this step.

4. Carefully fold the bottom section of the handlebar assembly forward over the engine (4, Figure 5-16). Guide the cables carefully while folding. Be sure not to bend, pinch, or stretch the cables; also, keep cables away from muffler — the outer cable covering can be burned if the engine is still hot.

5. To unfold handlebar assembly, perform folding steps in reverse order.

PINION GEAR SERVICE

The mower drive wheels (rear wheels) each contain a pinion gear. This gear transfers drive power to the wheels which propels the mower forward. It is very important to keep these internal parts clean. The following procedure explains how to disassemble, clean and reassemble the mower drive wheels. Conduct this maintenance on the pinion gears after every 50 operating hours.

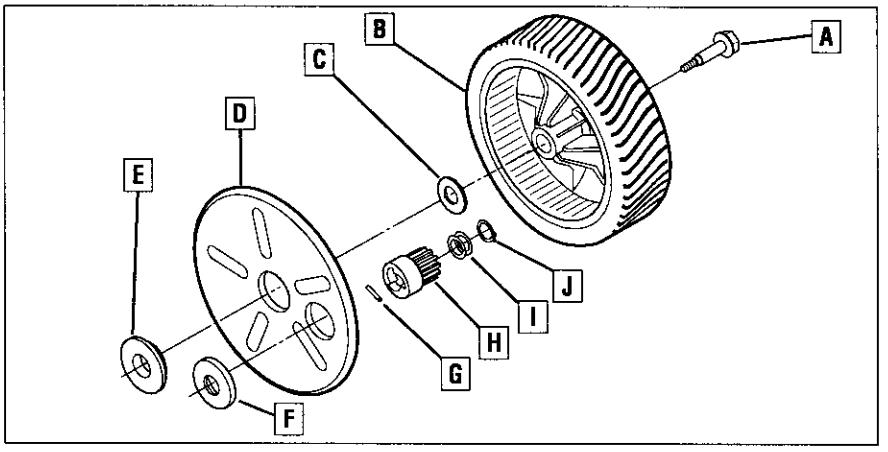


Figure 5-18: Drive wheel assembly.

Tools and Materials

- 9/16" Socket and Ratchet
- Small Snap-Ring Pliers
- Cleaning Rags

Procedure

NOTE: This procedure is done only on the drive wheels (rear wheels).

1. Place a sturdy, stable block under the mower to elevate a rear wheel off the ground.

2. Use a 9/16" wrench to remove wheel assembly (A, B, C, D, E, Figure 5-18).

3. Remove snap-ring (J, Figure 5-18) from axle.

4. Remove shim(s) (I, Figure 5-18). The number of shims vary from mower to mower. Put them next to the snap-ring.

5. Pull off pinion gear (H, Figure 5-18).

6. Remove drive pin (G, Figure 5-18).

7. Remove plastic washer/seal (F, Figure 5-18).

8. Thoroughly clean off debris from the drive pin, axle, hole in axle (for drive pin) and the washer/seal.

9. Reinstall washer/seal (F, Figure 5-18). Be sure to install flat side of washer against bearing (mower deck).

10. Insert the drive pin (G, Figures 5-18) into the hole in the axle.

NOTE: The pin should slide freely within the hole.

11. Thoroughly clean pinion gear, including surface area and cavity.

12. Slide the pinion gear (H, Figure 5-18) onto the axle with the cavity toward the mower. Press the gear firmly against the washer/seal (F, Figure 5-18). Be certain that the gear is flush against the surface of the washer/seal and that the washer/seal is flush against the wheel mounting bracket.

13. Slide the shims (I, Figure 5-18) onto the axle and against the pinion gear. Be sure to install the same number of shims as were removed from the unit.

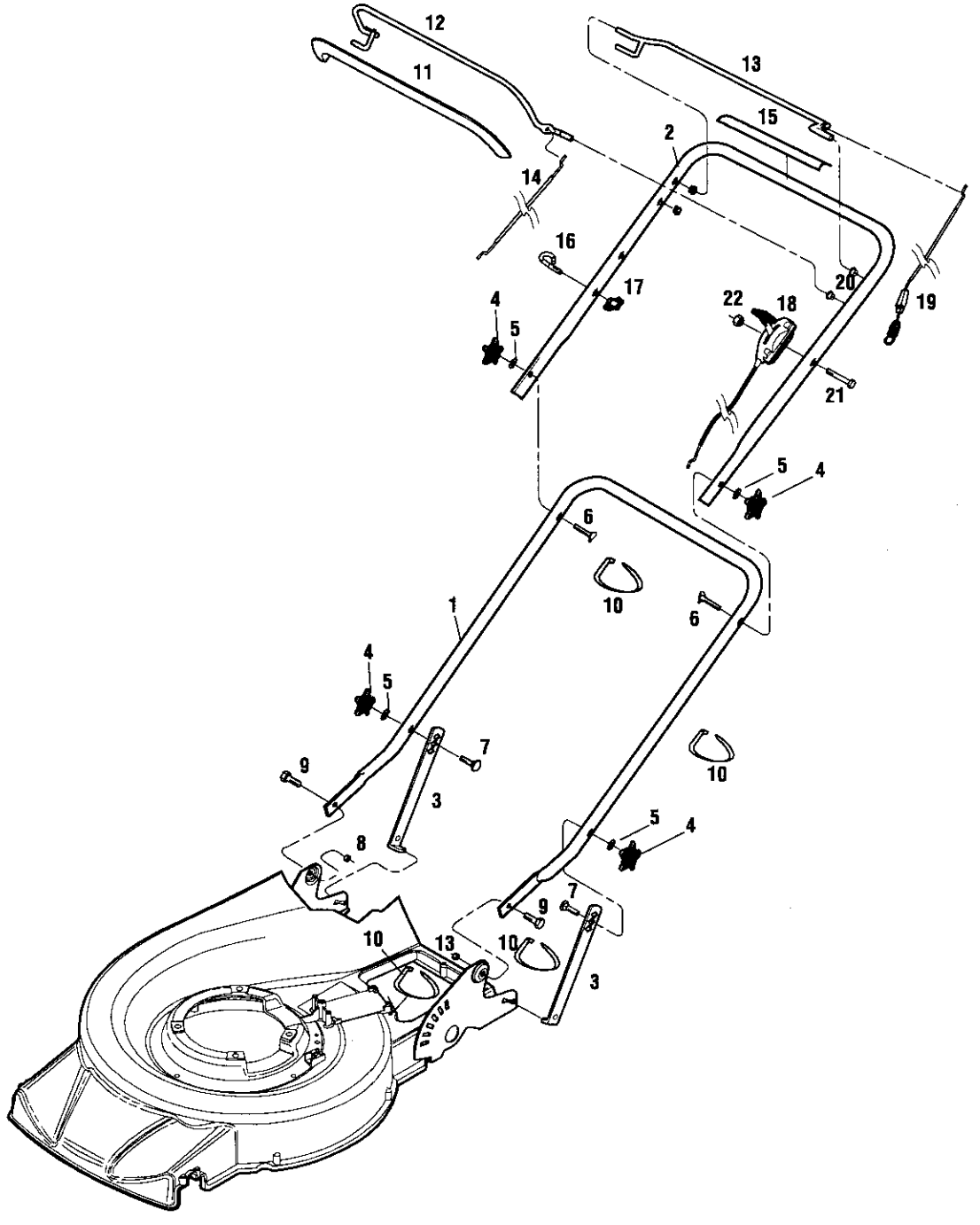
14. Install the snap-ring onto the axle (J, Figures 5-18) and into the groove in the axle. Pull the pinion gear outward to be sure that the snap-ring seats properly.

NOTE: If you can't get the snap-ring into the slot in the axle, press the pinion gear more firmly against the washer/seal. Do not leave off shims.

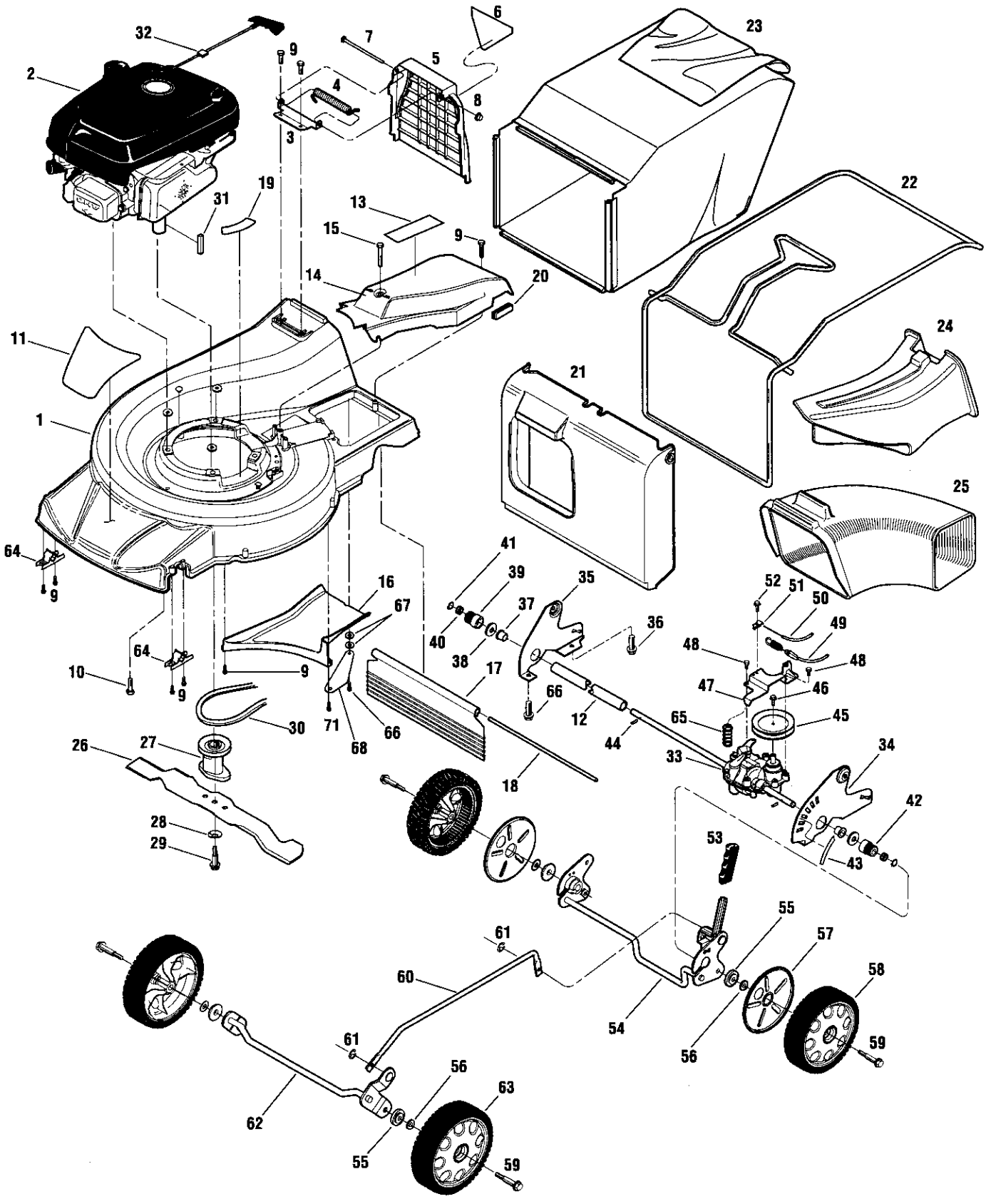
15. Insert wheel screw (A, Figure 5-18) through wheel (B), flat washer (C), center hole in wheel shield (D), and spacer (E). The wheel shield has a double edge on the rim. Position this side toward the wheel.

16. Align pinion gear with the hole in the wheel shield. At the same time, align the wheel screw with the welded nut on the wheel bracket and tighten securely.

Parts List



Ref. #	Part #	Description	Qty.
1	1917021	Lower Handlebar	1
2	1917026	Upper Handlebar	1
3	1917036	Handlebar Support Strut	2
4	1763767	Handlebar Adjustment Knob	4
5	1177038	Ext. Tooth Lock Washer, 5/16	4
6	1731025	Curved Head Screw, 5/16-18 x 1-3/4	2
7	1917087	Carriage Bolt, 5/16-18 x 1-3/4, Special	2
8	1110108	Hex Lock Nut, 3/8-16	2
9	1100068	Hex Hd. Screw, 3/8-16 x 3/4, GR. 5	2
10	1763682	Cable Tie	2
11	1917050	Bail Grip	1
12	1917053	Operator Presence Control Bail	1
13	1917085	Wheel Drive Bail	1
14	1917081	Operator Presence Control Cable	1
15	1918161	Decal - Bail Operating Instructions	1
16	710-1205	Rope Guide	1
17	720-0279	Wing Knob, 1/4-20	1
18	1917037	Speed Control Lever/Cable	1
19	1917032	Drive Control Cable	1
10	1908677	Bushing, Nyliner	4
21	1917091	Hex Hd. Screw, M6	1
22	1917092	Hex Nut, M6	1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Parts List

Ref. #	Part #	Description	Qty.
1	1917000	Mower Deck	1
2	*	Engine	1
3	1917072	Support Bracket	1
4	732-04011	Torsion Spring	1
5	1917044	Discharge Outlet Cover	1
6	777S30145	Decal - Warning	1
7	1917086	Pin	1
8	1727342	Flange Push Nut, 5/16 dia	1
9	1754128	Hex Hd. Flange Screw, 1/4-20 x 3/4, Self-Thrd.	8
10	1918076	Hex Hd. Screw, 3/8-16 x 1-1/4, Self-Thrd.	3
11	777D06222	Decal - Logo	1
12	1918339	Spacer Tube, Plastic	1
13	777S32021	Decal - Warning, Belt Cover	1
14	1918223	Belt Cover	1
15	1917088	Hex Hd. Flange Screw, 1/4-20 x 2-1/4, Self-Thrd.	1
16	1917002	Discharge Outlet Baffle	1
17	731-04031	Safety Flap	1
18	1917073	Flap Rod	1
19	777S32022	Decal - Danger, BBC Opening	1
20	1918284	Rubber Extrusion	1
21	1917029	Grass Catcher Door	1
22	1917030	Grass Catcher Frame	1
23	664-04004	Grass Catcher Bag (*Cub Cadet*)	1
24	1917084	Mulching Plug	1
25	1917056	Side-Discharge Deflector	1
26	1917054	Mower Blade	1
27	1917017	Engine Pulley/Blade Coupler Assy.	1
28	GW-9928	Belleville Washer, 1/2"	1
29	1917060	Shoulder Screw, 3/8-24 x 1.65	1
30	1917005	V-Belt	1
31	GW-9302	Square Key, .188 x 1-1/4	1
32	1746425	Rope Stop	1
33	1917004	Transaxle	1
34	787-01014	Handle Support Bracket, Left-Hand	1
35	1917018	Handle Support Bracket, Right-Hand	1
36	1723037	Hex Hd. Flange Screw, 3/8-16 x 3/4, Self-Thrd.	2
37	1917014	Rear Axle Bearing	2
38	1917079	Washer/Seal, Nylon	2
39	1918323	Pinion Gear, Right-Hand	1
40	1909380	Shim, .016"	A/R
	1909382	Shim, .062"	A/R
41	GW-9516	Snap-Ring	2
42	1918322	Pinion Gear, Left-Hand	1
43	777I22012	Decal - Blade Cutting Height	1
44	1909044	Round Pin	2
45	1917003	Transaxle Pulley	1
46	1186309	Hex Hd. Screw, 1/4-20 x 5/8, GR. 5	1
47	1917009	Cable Mounting Bracket	1
48	GW-9552	Hex Flange Hd. Screw, 1/4-20 x 1/2, Self-Thrd.	2
49	1917032	Drive Control Cable	1
50	1917037	Speed Control Cable/Lever	1
51	1715127	Cable Clamp	1
52	1767754	Hex Washer Hd. Flange Screw, #10-24 x 1/2	1
53	720-0313	Lever Grip	1
54	1917011	Rear Axle Assembly	1
55	1917074	Spacer	4
56	1909311	Flat Washer, .406" ID	4
57	1917083	Wheel Shield	2
58	1765750	Rear Wheel/Tire Assembly	2
59	1903416	Shoulder Screw, 3/8-16 x 2.42	4
60	1917012	Deck Height Adjust Linkage	1
61	1185257	E-Clip	2
62	1917010	Front Axle Assembly	1
63	1765740	Front Wheel/Tire Assembly	2
64	1917015	Front Axle Bearing	2
65	1917068	Compression Spring	1
66	710-0502A	Self-Tapping Screw, Sems, 3/8-16 x 2.5	2
67	736-3052	Flat Washer, .406 x 1.0 x .105	4
68	787-01013	Guard Plate	1
69	736-0280	Flat Washer, .395 x 1.12 x .1	3
70	726-04007	Plastic Clip, Fastener	2
71	710-0788	Hex Hd. Flange Screw, 1/4-20 x 1.0, Self-Thrd.	1

* Order parts from your *Cub Cadet* dealer. Refer to engine/model type nameplate on engine.

A/R As Required.

MANUFACTURER'S LIMITED WARRANTY FOR:

Cub Cadet®

The limited warranty set forth below is given by Cub Cadet LLC with respect to new merchandise purchased and used in the United States, its possessions and territories.

Cub Cadet LLC warrants this product against defects for a period of two (2) years commencing on the date of original purchase and will, at its option, repair or replace, free of charge, any part found to be defective in materials or workmanship. This limited warranty shall only apply if this product has been operated and maintained in accordance with the Operator's Manual furnished with the product, and has not been subject to misuse, abuse, commercial use, neglect, accident, improper maintenance, alteration, vandalism, theft, fire, water, or damage because of other peril or natural disaster. Damage resulting from the installation or use of any accessory or attachment not approved by Cub Cadet LLC for use with the product(s) covered by this manual will void your warranty as to any resulting damage.

Normal wear parts or components thereof are subject to separate terms as follows: All normal wear parts or component failures will be covered on the product for a period of 90 days regardless of cause. After 90 days, but within the two year period, normal wear part failures will be covered ONLY IF caused by defects in materials or workmanship of OTHER component parts. Normal wear parts and components include, but are not limited to: batteries, belts, blades, blade adapters, grass bags, rider deck wheels, seats, snow thrower skid shoes, shave plates, auger spiral rubber, tires.

HOW TO OBTAIN SERVICE: Warranty service is available, WITH PROOF OF PURCHASE, through your local authorized service dealer. To locate the dealer in your area, check your Yellow Pages, or contact Cub Cadet LLC at P.O. Box 361131, Cleveland, Ohio 44136-0019, 1-877-282-8684, or log on to our Web site at www.cubcadet.com.

This limited warranty does not provide coverage in the following cases:

a. The engine or component parts thereof. These items carry a separate manufacturer's warranty. Refer to the applicable manufacturer's warranty for terms and cond tions.
b. Log splitter pumps, valves, and cylinders have a separate one year warranty.
c. Routine maintenance items such as lubricants, filters, blade sharpening, tune-ups, brake adjustments, clutch adjustments, deck adjustments, and normal deterioration of the exterior finish due to use or exposure.
d. Cub Cadet LLC does not extend any warranty for products sold or exported outside of the United States, its possessions and territories, except those sold through Cub Cadet LLC's authorized channels of export distribution.
e. Parts that are not genuine Cub Cadet parts are not covered by this warranty.
f. Service completed by someone other than an authorized service dealer is not covered by this warranty.
g. Transportation charges and service calls are not covered.

No implied warranty, including any implied warranty of merchantability of fitness for a particular purpose, applies after the applicable period of express written warranty above as to the parts as identified. No other express warranty, whether written or oral, except as mentioned above, given by any person or entity, including a dealer or retailer, with respect to any product, shall bind Cub Cadet LLC. During the period of the warranty, the exclusive remedy is repair or replacement of the product as set forth above.

The provisions as set forth in this warranty provide the sole and exclusive remedy arising from the sale. Cub Cadet LLC shall not be liable for incidental or consequential loss or damage including, without limitation, expenses incurred for substitute or replacement lawn care services or for rental expenses to temporarily replace a warranted product.

Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions or limitations may not apply to you.

In no event shall recovery of any kind be greater than the amount of the purchase price of the product sold. **Alteration of the safety features of the product shall void this warranty.** You assume the risk and liability for loss, damage, or injury to you and your property and/or to others and their property arising out of the misuse or inability to use the product.

This limited warranty shall not extend to anyone other than the original purchaser or to the person for whom it was purchased as a gift.

HOW STATE LAW RELATES TO THIS WARRANTY: This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state.